Clinical Section

*Peripheral Vascular Diseases

Some Comments on their Management

by

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The study of these peripheral vascular disorders is a delight to the true clinician. Here is a field in which tremendous advances have been made—but in which clinical observation and sound judgment still remain supreme.

In other fields of medicine, if we are to believe some authorities, the clinician is about to be replaced by the test tube, the colorimeter, the electrocardiograph or the x-ray. Here, however, the eyes and the fingers of the careful clinician are of paramount importance.

These disorders affect the arteries, veins, arterioles and capillaries of the extremities, structures readily accessible to clinical observation and study. How easy things would be if we could *palpate* the coronary arteries! Many of these disorders, if neglected, result in the black scourge of gangrene. We know *now* that gangrene and its sequel, amputation, can and should be prevented by early diagnosis and proper conservative treatment.

In the study of these conditions, the history is of importance and particularly the history of pain. What types of pain may be expected? One may encounter the localized pain of phlebitis, the deep burning pain of thrombophlebitis or the spasmodic pain occurring in Raynaud's disease. The pain in obstructive arterial lesions such as Buerger's and arteriosclerosis may be of several types. The ischaemic type (intermittent claudication) is brought on by exertion and relieved by rest. Hyperaemic pain is induced upon lowering the diseased extremity and finally the intractable, terrible and constant rest pain, known as ischaemic neuritis may occur in Buerger's disease.

The onset of pain is often insidious and indeed there may be only a history of numbness or coldness or burning of one of the extremities.

Intermittent claudication may occur only in a finger or a toe. Many people who have obstructive arterial disease, are treated for fallen arches.

If the physician uses his eyes he may learn a great deal. He may perchance observe the three phase colour reaction in Raynaud's disease. Not red, white and blue but *white, blue* and *red*. He may observe in obstructive arterial disease the pallor on elevation of the leg and the dependent rubor upon lowering it. Changes in the skin occur also; there may be thickening, inelasticity, scaliness, pigmentation and general evidence of poor blood supply. Later ulceration, phlebitis and gangrene may occur. Many examples of ringworm, infection of the toes and nails may be observed—a most serious threat to their integrity.

The clinician must use his fingers in a routine examination of the accessible arteries. Absence of pulsation means obstructive arterial disease, though occasionally one may be misled by an aberrant artery. The degree of arteriosclerosis must also be noted.

Changes in temperature in the feet are easily noted by the hand alone. The back of the hand can appreciate differences in temperature as close as 0.5 degrees. Temperatures can also be recorded by the skin thermometer or by a thermocouple. The value of skin temperatures is limited to:

(*a*) The sudden drop of temperature of one extremity as a sign of acute occlusion.

(*b*) Marked variation of temperature between two limbs.

(*c*) Certain rises in temperature with tests used to determine the degree of vasoconstriction.

Other tests of value are the walking test which measures the claudication time and the venous filling time. These tests may be used to obtain an index of progress under treatment.

Treatment

In the discussion of the treatment of a few of these vascular disorders a rough classification is necessary. This is by no means complete but may serve as a basis for comment.

I. DISEASES OF THE VEINS.
   1. Acute phlebitis.
   2. Acute thrombophlebitis.

II. ARTERIOLES AND CAPILLARIES (SPASMODIC).
   1. Those in which the blood vessels are opened too much such as *erythromelalgia.*
   2. Those in which the blood vessels are closed too much as in *Raymaud's Disease.*

III. ARTERIES.
   (*a*) *Acute Occlusion of an Artery.*
      (*a*) Embolism.
      (*b*) Thrombosis.
   (*b*) *Chronic Obstructive Arterial Disease.*
      1. Thromboangeitis obliterans with or without phlebitis or vasospasm.
      2. Arteriosclerosis obliterans with or without diabetes, no phlebitis and no vasospasm.

* Post Graduate Course, University of Manitoba, February, 1940.

There is little to say about acute superficial phlebitis. Rest and the application of hot moist packs will usually clear up the condition in from 5 to 10 days. Sulphanilamide may hasten the healing process. There is no danger from embolism here.

Thrombophlebitis however offers greater problems particularly when the femoral and iliac veins are involved. The danger of pulmonary embolus occurring after the clinical signs of thrombosis are present is probably less than 3%. During the acute stage, these patients should be put to bed, the legs elevated to an angle of 30 degrees with the horizontal and hot moist packs applied from toe to groin. This is continued until the temperature has been normal for five days and there is no pain, swelling or tenderness along the course of the vein. Keeping patients in bed after this may predispose to further thrombosis. Sulphanilamide is of definite value in these cases.

Management after the Acute Stage

This is the stage of chronic venous obstruction and stasis. Oedema, varicose veins and signs of venous obstruction occur. The veins must be supported and this is done by an elastic stocking which, however, wears out quickly and loses its elasticity.

If cotton stockings are worn, an ordinary two-inch pure rubber bandage may be applied from toe to knee. It is not necessary to go higher than the knee. This bandage has some disadvantage but is easily applied. It must be worn for months. Once a month it is left off for a day and if there is no oedema it may be discarded.

Erythromelalgia is a very rare disease—first described by Weir Mitchell many years ago. The disease is spasmodic, symmetrical and acute. Periodic attacks of burning pain in the feet occur for which no relief can be found.

Its opposite, Raynaud's disease is more common, occurs chiefly in young women and is characterized by spasmodic, symmetrical, painful spasms of the smaller vessels of the hands on exposure to cold. Most important in the diagnosis is the history or observation of the three phase colour reaction, white, then blue, then red. The larger arteries show normal pulsations. This colour reaction in Raynaud's disease almost exactly parallels the response of normal skin to cold, with this exception that it takes much less cold to produce a severe reaction in the individual who has Raynaud's disease.

Should a typical Raynaud's syndrome occur in the feet of a man it is most likely to be associated with Buerger's disease. 30% of cases of thromboangeitis give a history of a three phase colour reaction in response to cold.

The treatment of choice in the *severe* definite case of Raynaud's disease is cervical sympathectomy. Kraetzer has reported some good results in a small series of cases with the intravenous injection of 0.5 Gm. fresh sodium thiosulphate twice a week. His theory is that the condition is due to arsenic poisoning.

Acute Arterial Obstruction

It is well to remember here that symptoms appear suddenly in only 40% of cases and that in only 50% is there severe pain. The remainder have no pain but only severe numbness, loss of sensation and muscular power. There is a quick drop in temperature of the affected limb and of course absent pulsations on that side.

The important thing to decide in these cases is whether embolism or thrombosis has caused the catastrophe. If due to embolism the site and level of the obstruction must be found and the question of embolectomy seriously considered.

Treatment in the beginning must be aimed at relieving the widespread vasospasm of the collateral circulation. This may be done in several ways. Intermittent suction and pressure is of value here but must be discontinued if the most striking results are not apparent in a few hours. Spinal anaesthesia has been used by some to dilate the collateral arteriolar bed.

Papaverine Hydrochloride is probably of greatest value in the very early stages. It is given intravenously in ½ grain doses and may be repeated. Papaverine also apparently relieves regional vasospasm in pulmonary embolism, cerebral thrombosis and coronary thrombosis.

There is one important rule to remember, if the normal temperature and colour of the foot does not return within one hour by the use of the above methods, embolectomy must be seriously considered. Do not depend on papaverine alone. If a good surgeon is available — don't wait. According to Pearse the results of embolectomy are as follows.

If done in the 1st 10 hours, 40% successful; 2nd 10 hours, 14% successful; 3rd 10 hours, 8% successful.

After 48 hours many authorities believe amputation should be done without further delay.

Chronic Obstructive Arterial Disease

The general aims of treatment in Buerger's disease and arteriosclerosis are the same.

The Prevention of Gangrene

This is chiefly a matter of education of the patient, and entails the most careful and detailed instruction. It has been my custom to give the patient a set of rules for the care of his feet somewhat as follows:

*General Directions for the Care of the Feet

The circulation in your feet can be greatly improved by increasing the number and size of the smaller arteries (the detour arteries). Gangrene and other catastrophies may be avoided in a large percentage of cases by careful observance of the following rules:—

INJURY:

More than 50% of the gangrene which sometimes occurs in cases like yours is caused by some avoidable injury:—

(1) Crushing, bruising of the feet or toes, scratches, cuts, skin cracks, blisters, burns and frost bite must be avoided.

(2) Wash feet each night with a mild face soap and water.

(3) Dry feet with a clean soft towel without rubbing the skin.

(4) Apply vaseline or lanoline and massage the feet each night.

(5) Do not use hot water bottles, electric pads or any other mechanical heating device.

(6) Wear comfortable shoes which do not pinch or rub—shoes of soft leather are best. New shoes should be worn only one hour a day for the first week.

(7) Toenails should be cut straight across in a good light after cleansing feet.

(8) Corns, callouses, and bunions should not be cut.

(9) Untrained or ignorant chiropodists may cause loss of a leg if they do not recognize the impaired circulation.

(10) Do not wear circular garters or sit with the legs crossed.

(11) Minor operations on the toes cause many cases of gangrene.

(12) Remember that cold or heat are dangerous to those with impaired circulation.

(13) 30% of cases of gangrene are caused by strong antiseptics, particularly by iodine, lysol, carbolic acid, strong ointments and liniments for "athletes foot," etc.

(14) If you unavoidably injure or burn your feet, call your physician immediately. Similarly with blisters, painful corns, etc.

(15) Athletes foot must be avoided at all costs. Such infection may be picked up in public showers at beaches, hotels and golf clubs.

(16) Drink from three to four pints of water daily if the kidneys and heart are normal.

(17) *Do not use tobacco* in any form.

(18) Carry out the exercises and special treatment as prescribed.

Rest is the most important thing when the circulation is impaired. If ulceration or infection occurs, it may be necessary to rest in bed for considerable periods.

* Adapted from instructions of Brown, Allen, Hermann and Reid.

Other Methods of Treatment

Other objectives in treatment are the relief of pain and the attempt to increase the size of the detour arteries and relieve regional vasospasm. For postural exercises and contrast baths the following instructions are given to the patient.

Postural Exercises:

(*a*) Lie on your back on a bed or couch and elevate the feet to a vertical position until the bad foot becomes white (blanched).

(*b*) Sit on the edge of the bed with the legs hanging down over the side till the colour begins to return to the feet.

(*c*) Lie on your back with the legs in a horizontal position for one minute.

Repeat these three manoeuvres four or five times, a total of ten minutes a day.

Contrast Baths: Place cold water in a container large enough to immerse both feet to the mid leg. The temperature of the water should be 40°-50° F. Hot water of 102°-105° F is placed in another container. Put feet in hot water one minute, then in cold water 30 seconds and repeat five to ten times. A bath thermometer must be used. Contrast baths are never used when ulceration, infection or gangrene is present. If the feet become soggy, the baths must be discontinued.

Mustard baths (0.6% mustard) are of value if the skin is reasonably healthy. Some general rules might be emphasized which are invariably broken by all concerned. The legs should not be elevated. This simply depletes the blood supply. Heat over 105 degrees F in the form of hot water bottles or carbon lights should not be applied. Strong antiseptics are dangerous. A 1-8000 solution of potassium permanganate makes an ideal foot bath for cases of ringworm infection.

There are a number of specialized procedures which are worthy of careful study. For instance the usual postural exercises may now be made automatic by means of a Sander's Bed. This bed is constructed so that a silent motor will move the bed in such a way that the exercises become continuous. Allen states that pain is relieved in 80% of cases and marked improvement in the circulation has been noted.

Intermittent venous compression may be provided with the blood pressure instrument. Pressure is raised to 30-40 mm. mercury, held for two minutes and released for two minutes if there are open lesions. If no open lesions are present the pressure may be raised to 60-90 mm. mercury. There are instruments available which do this work automatically. Many observers speak well of this method of increasing the collateral circulation.

Among other methods which are advocated are: the use of short wave diathermy which by increasing the body temperature causes increased vasodilatation. This must be used with caution. Sandstead & Beams found that 15-90 G. of salt per day every other two weeks decreased pain, healed ulcers and increased the temperature of the feet. This is given by mouth. Silbert found that 150-300 c.c. of 3% sodium chloride given intravenously three times a week greatly reduced the incidence of amputation.

Intermittent positive and negative pressure (Paevex). The glass boot has not lived up to its early reputation. In our experience it has been of little value in Buerger's disease. In certain cases of acute occlusion of an artery, in cases of arteriosclerosis with pain and particularly in cases with intermittent claudication the results have been satisfactory. It is significant that many patients themselves swear by this method.

In Buerger's disease, smoking must not be permitted. Allen says to the patient "You can have your legs or your tobacco but not both." A statement which he may qualify later in certain cases.

The old method of Brown, that is the intravenous injection of typhoid vaccine is still a great favorite in most centres and it required little apparatus. Injections are given once a week for long periods and in our experience the results are very good. Improvement in the circulation and relief of pain is at times quite striking. Insulin free pancreatic extracts (Padutin) have some value in increasing the claudication time but little influence on the collateral circulation.

The indications for sympathectomy cannot be discussed here but the operation should not be done until the degree of vasospasm has been measured by appropriate tests. Spinal anaesthesia and Brown's fever test are the most reliable methods of gauging the degree of vasospasm.

In conclusion one must emphasize the great importance of early diagnosis in these cases. Palpation of the larger arteries should be a routine measure in every physical examination especially after the age of 30.

If there is diminished pulsation present even without the symptoms and signs of actual obstruction of the vessel the patient should be warned and taught how to care for his feet.

In other words amputation for gangrene while *at times* unavoidable should bear with it a faint stigma of neglect.

MEDICAL PRACTITIONER WANTED

Good opening for medical practitioner at Minitonas in Manitoba. Municipality will make a grant of $50 per month as medical health officer for the first twelve months.

Further particulars can be obtained from Harry Laing, secretary-treasurer, rural municipality of Minitonas, Minitonas, Manitoba.

Special Articles and Association Notes

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Executive Meeting

Summary of minutes of a meeting of the Executive of the Manitoba Medical Association held in the Medical Arts Club on Wednesday, January 31st, 1940, at 6.30 p.m.

Present.

Dr. W. E. Campbell (Chairman)
Dr. Geo. Clingan
Dr. C. W. Burns
Dr. W. W. Musgrove
Dr. E. W. Stewart
Dr. E. J. Skafel
Dr. F. K. Purdie
Dr. Geo. Brock
Dr. H. D. Kitchen
Dr. A. M. Goodwin
Dr. S. G. Herbert
Dr. J. C. McMillan
Dr. E. S. Moorhead
Dr. C. W. MacCharles.

The minutes of the last two Executive Committee meetings held on October 5th and November 6th, 1939, were summarized by the Secretary.

It was moved by Dr. E. J. Skafel, seconded by Dr. H. D. Kitchen: THAT the minutes of the Executive Committee meetings held on October 5th and November 6th, 1939, respectively, be adopted. —Carried.

Business Arising out of the Minutes

Standing Committees.

The secretary read the list of appointments made on the remaining Standing Committees, by the Chairman, as instructed at the last meeting of the Executive Committee.

It was moved by Dr. Geo. Clingan, seconded by Dr. H. D. Kitchen: THAT these appointments be approved. —Carried.

Medical Service Scheme.

The Chairman of the Committee on Economics reviewed the progress of discussions with a group in Winnipeg who were desirous of a medical service scheme, and a motion was passed instructing the Committee on Economics to draw up a tentative schedule of fees with the co-operation of the representatives of Sections of the Winnipeg Medical Society, and submit a report to the Winnipeg Medical Society.

Committee on Fees.

The Chairman of this Committee, Dr. McMillan, presented a progress report. He stated that a copy of the schedule of fees prepared by the Academy of Medicine of Toronto had been printed and given to the various members of the Committee, and some copies had been sent to various general practitioners throughout Greater Winnipeg, and several copies to the Secretaries of the District Medical Societies.

The Committee had met and discussed the problem, also each of the sections of the Winnipeg Medical Society had met later and prepared a tentative schedule of fees for their particular work. These reports had been submitted to a meeting of the Committee and with certain modifications had been accepted.

It was felt that a copy of the schedule as accepted to date should be submitted to the District Societies for consideration, and a meeting be held at which the members of the Fees Committee from the country could attend and discuss the whole report.

Dr. Clingan pointed out that the District Societies outside of Winnipeg and Brandon would not be holding meetings until May, and it was suggested that probably the final decision of the fee schedule would have to be deferred until such time as the District Societies would have an opportunity to discuss this problem.

It was moved by Dr. J. C. McMillan, seconded by Dr. W. W. Musgrove: THAT this report be accepted. —Carried.

It was then moved by Dr. C. W. Burns, seconded by Dr. Geo. Brock: THAT a copy of the tentative schedule of fees be sent to the Secretaries of the various District Medical Societies, asking for comments particularly with regard to mileage, etc. —Carried.

Dr. Moorhead pointed out that the schedule of fees of the Academy of Medicine of Toronto had not been accepted by the Ontario Medical Association.

New Business

Report of Representative on Executive of C.M.A.

In the absence of Dr. Trainor the Secretary summarized the minutes of the last meeting of the Executive Committee of the Canadian Medical Association.

It was moved by Dr. C. W. Burns, seconded by Dr. Geo. Brock: THAT this report be accepted. —Carried.

Members Going Overseas.

It was moved by Dr. W. S. Peters, seconded by Dr. Geo. Clingan: THAT members going overseas with the forces or devoting their full time to services in Canada, be carried as ordinary members of the Manitoba Medical Association for the duration of the war. —Carried.

Municipal Doctors.

This subject was brought up for discussion, and it was decided to secure relevant information and consider the problem again at the next meeting.

Fees for Court Cases.

The question of fees for court cases had been referred to the Executive Committee by the Special Committee on Fees. A motion was passed instructing the President to appoint a Committee to interview the responsible authorities with regard to this problem.

Resignations.

The Secretary read letters received from Dr. Corrigan tendering his resignation as Treasurer of the Manitoba Medical Association, and as a representative on the Cancer Relief and Research Institute.

Dr. A. E. Smith also tendered his resignation as the Brandon and District Medical Society representative on the Executive of the Manitoba Medical Association.

Both these members are on military duty.

Letter from Winnipeg Medical Society re Proposed Survey of Births.

The Secretary read a letter from the Winnipeg Medical Society embodying a resolution passed approving of a proposed survey of births to be undertaken by the Department of Health and Public Welfare: "THAT this Section respectfully suggests that the Department of Health and Public Welfare be requested to institute a study of antenatal, natal and neonatal deaths and still births, similar to that now carried on in the case of maternal deaths."

It was moved by Dr. W. S. Peters, seconded by Dr. S. G. Herbert: THAT this resolution be approved. —Carried.

Letter from Manitoba Hospital Association.

The Secretary read a letter received from the Manitoba Hospital Association advising that they had appointed a Special Committee to study the question of inadequacy of provisions for hospital costs, etc., and asked for the co-operation of the Manitoba Medical Association.

It was moved by Dr. W. S. Peters, seconded by Dr. S. G. Herbert: THAT a Committee consisting of the President (Dr. W. E. Campbell), Dr. O. C. Trainor, Dr. G. S. Fahrni, Dr. A. C. Abbott, the Chairman of the Staff of the Children's Hospital and the Chairman of Staff of the St. Boniface Hospital, be a Committee to meet with members of the Manitoba Hospital Association. —Carried.

OBITUARIES

DR. MICHAEL C. BURKE

Dr. Michael C. Burke died at High River, Alta., on January 1, 1940, on his fifty-first birthday. Born at Fairfax, Manitoba, he graduated from the Manitoba Medical College in 1915, joined the Army Medical Corps and proceeded to France, where he won the Military Cross in 1916. He was sent back to recruit in Brandon, Manitoba, and returned to France in 1917. At the close of the war he practiced in Blackie, Alberta, and later at High River. He is survived by a wife and three children.

Dr. L. J. Loughlin, of Carberry, has kindly sent these notes.

Dr. O. J. Day, Winnipeg, adds that Dr. Burke was wounded and returned to the front and received two bars to the Military Cross. Dr. Day pays tribute to him as one of the bravest men he knew.

DR. PAUL EWERT

Dr. Paul Ewert, 56, former resident of Gretna, Man., died on February 4th at his home in Golden, B.C. Born in Newton, Kansas, he moved to Gretna in 1891 and graduated from McGill in medicine in 1912. He had practiced in Golden since 1914.

DR. HARVEY E. HICKS

Dr. Harvey E. Hicks, aged 76, pioneer medical man of Manitoba, died at Griswold on February 18. He was born at Melford, Ont., and came to Manitoba in 1891, graduating in medicine from Manitoba in 1897. He began practice at Griswold. In 1903 he was elected M.L.A. for Lansdowne. After his term in the legislature he did post graduate work in Great Britain and in 1910 he joined the staff of the Brandon Mental Hospital, becoming Superintendent in 1915. He became a member of the C.A.M.C. in 1918; practiced for about seven years at Oak Lake and in 1926 retired from medicine and devoted his time to farming.

DR. GEORGE W. STAPLES

Dr. George W. Staples died February 23rd at Carman, Man., aged 78. He graduated in medicine from Manitoba Medical College in 1896, and practiced at St. Claude, Man. He was buried in Elmwood cemetery, Winnipeg.

Department of Health and Public Welfare

NEWS ITEMS

The following is a recent publication in "Preventive Medicine" by Dr. Russell L. Cecil, Professor of Clinical Medicine, Cornell University Medical College, New York City:—

"THE CONTROL OF RESPIRATORY INFECTIONS:

Introduction

"The respiratory infections present one of the most important problems in present day medicine. This statement holds true whether we consider them from the therapeutic standpoint of the practitioner, or from the sanitary viewpoint of the public health officer. The common cold, influenza, pneumonia, and tuberculosis when considered all together, and including their complications, constitute a large bulk of human morbidity. Pneumonia alone ranks third as a cause of death in the United States. Tuberculosis is less prevalent than it formerly was, but still remains a health problem of the first order.

"These fundamental respiratory infections are not only dangerous in themselves, but are doubly serious because of the complications which frequently follow them. Such complications are often merely extensions of the infection from one organ to another, but in other instances the complications are only indirectly related to the preceding respiratory infection. How often the patient with cardiac decompensation or Bright's disease dates the onset of active symptoms to a bad cold or an attack of grippe! We may say then that the devastation which results every year from respiratory infections is only partly the result of the infections themselves. The sequelae can be traced into the domain of most of the chronic systemic diseases.

"The topic which I have been asked to discuss is 'The Control of Respiratory Infections.' This title might be called the expression of an unfulfilled desire, for certainly respiratory infections are far from being under control at the present time. We have learned to control the intestinal infections, but control of respiratory infections is still in the experimental stage. However, important advances have been made along certain lines, notably in the control of diphtheria and tuberculosis. Promising leads are being followed in the fields of coryza, influenza and pneumonia. In the following few pages I shall attempt to present briefly the present status of various preventive measures as applied to acute and chronic respiratory diseases.

"For the sake of convenience, we will divide the topic into: A—Acute Respiratory Infections, and B—Chronic Respiratory Infections.

A—Acute Respiratory Infections

"The acute respiratory infections fall into two groups —the acute upper respiratory infections and the acute lower respiratory infections. Under the first heading come:—

1. Acute coryza.
2. Influenza.
3. Acute tonsillitis and quinsy.
4. Septic sore throat.
5. Diphtheria.
6. Complications of the infections mentioned above.

1. Coryza

"The control of the acute upper respiratory infections may well be called the fundamental problem in the whole field, for if sanitarians knew how to prevent coryza and influenza a very long stride would have been taken toward the elimination of the more serious infections which so frequently complicate these two diseases. Unfortunately, this desideratum has not yet been attained. Indeed, it is only within the last few years that we have obtained accurate information concerning the etiology of these two very prevalent infections.

"With respect to the common cold, the older bacteriologists thought that it was caused by the normal inhabitants of the throat, such as the pneumococcus, staphylococcus, streptococcus, etc. During the last decade, however, interest has shifted from the bacterial inhabitants of the mouth to investigation along the line of viruses.

"The first actual reference to a filterable virus as the cause of colds was by Kruse[1] in 1914, when he reported the isolation of a virus from a patient, and experimental production of colds with bacteria-free filtrates. These experiments were repeated in 1916 by Foster[2] who obtained similar results. A very important addition to our knowledge of viruses in relation to the common cold was made in 1929 when Dochez, Shibley and Mills[3] observed that chimpanzees were susceptible to colds and that these closely resembled the same infection in human beings. They then made the important report that when these animals were inoculated intranasally with bacteria-free filtrates of nasal washings obtained from early human cases of the common cold, the chimpanzees developed typical coryza in 40 per cent. of instances. Later on these observers carried out similar experiments successfully on human volunteers. Most of the experimental colds both in man and in chimpanzees were of a mild character and disappeared within five days, usually without any complications.

"Further knowledge has been gained concerning the virus of the common cold by Dochez and his associates. It survives anaerobically in the cold for at least thirteen days. It is inactivated by a comparatively low degree of heat, and lastly it has been demonstrated to multiply in tissue culture medium of the type used in vaccine virus. Positive experimental infections have been obtained with cultures of the cold virus as many as fifty generations after the original 'seedings.' These findings by Dochez and his associates have been completely confirmed by Powell and Clowes[4] and other investigators, and indicate that the cold virus is similar to other typical filterable viruses that have been previously studied.

"The successful isolation of a virus from patients suffering with coryza has naturally led to attempts to produce an efficient virus vaccine which could be used as a prophylactic against the common cold. Dochez and his co-workers have vaccinated infants and adults with living cold virus and have kept them under observation for a year or more subsequent to vaccination. The results so far have not been sufficiently successful to justify the use of this virus as a prophylactic in man. Strangely enough, it is quite possible to vaccinate a chimpanzee against coryza with the cold virus.

"It is disappointing of course that these first efforts to protect man against colds by means of a virus vaccine have been unsuccessful, but it would not be proper to dismiss this subject without discussing briefly other measures which have been used from time to time for the prevention of colds.

"Bacterial vaccines, either stock or autogenous have been used in prophylaxis against colds since the days of Sir Almroth Wright. There has been much controversy concerning the prophylactic value of bacterial vaccines, and numerous papers have been written pro and con on the subject. A few facts however stand out as a result of these studies:—

1. Bacterial vaccines do not confer an absolute protection against colds. While they are quite effective with many persons, in others the results are disappointing.
2. Bacterial vaccines will reduce the frequency of colds in the majority of patients and will render the colds which do develop of less severity and shorter duration.
3. Bacterial vaccines which contain the prevalent types of pneumococci greatly reduce the incidence of pneumonia in vaccinated individuals. This point has been brought out in a number of studies.

"Autogenous vaccines are indicated in patients who suffer from repeated reinfections from a chronic focus in the respiratory tract, usually in one of the accessory sinuses.

"One of the most rational and successful methods of preventing recurring colds is the surgical elimination of a chronic focus of infection. This will usually be in the tonsils, adenoids, or sinuses, and in such patients tonsillectomy or proper drainage of the infected sinus will often result in complete disappearance of colds.

"Irrigations, sprays, and gargles are of only limited value and should be employed only in bland form. It is possible to sterilize the throat and buccal cavity by means of some of the modern germicides, but within an hour's time the bacteria have again made their appearance and are almost as numerous as they were previous to the irrigation.

"Colds are contagious. Isolation is therefore a rational procedure but difficult to enforce in large cities. However, in the case of children, who are even more susceptible to contagion than adults, isolation is well worth trying. Children with colds in the acute stage should not be sent to school, where they become the vehicle for spreading infection to other children. In many schools, children are sent home when they are discovered with acute colds, and requested to remain away from school until all symptoms have disappeared.

"The so-called 'hardening process,' as a prophylactic method, has not received much support from carefully conducted studies. Bathing in cold water and exposure to cold air may agree with certain very robust temperaments but in other cases might easily predispose to infection. Fresh air minimizes the chance of infection and probably does not affect the susceptibility of the individual. Experience indicates that ample clothing and dry warm shoes are important prophylactic measures. It is common knowledge that cold wet feet will often bring on a cold in the most robust individuals.

"There have been claims in the medical literature that ultra-violet radiation and a high vitamin diet would protect against coryza. Statistical evidence however carried out on college students does not support such statements.

"The author can highly recommend the prompt administration of the popular papaverin and codein capsule when given at the first intimation of a cold. The actual formula is as follows:—

Papaverin hyd.	gr. ¼
Codeine Phos.	gr. ¼
Sodium bicarbonate	gr. iij

Ft. Caps No. 1
Sig.: One capsule q. 3 hours
two capsules at bedtime.

When several of these capsules are taken at the very beginning of a cold, infection can frequently be aborted.

"From time to time the physician will encounter young children whose colds resist all efforts toward prevention. Coryza in these patients may be accompanied by fever and sinus complications. If all other efforts fail, a winter or two in Arizona will frequently work wonders. The child can then return to a northe climate and escape with only the average number infections.

"Summarizing then, we may say that while a sat factory virus vaccine has not yet been perfected f the prevention of the common cold, there are oth well-tried expedients which experience proves are w worthy of application.

Influenza

"The history of influenza reads very much like t of the common cold. For many years it was genera agreed that the infection was caused by the Bacil influenzae of Pfeiffer.[5] In 1918 however when great pandemic of influenza swept over the world sharp controversy arose concerning the etiology of t epidemic. Many bacteriologists claimed that they h failed to recover the influenza bacillus from typi cases of influenza and they questioned strongly etiological relationship of the bacillus to the disea Other bacteriologists were equally insistent that Pfeiffer bacillus was the responsible agent. In 19 Yamanouchi[6] claimed the demonstration of a filtera virus in patients suffering from influenza. The Japa ese succeeded in producing what they described as 'typical disease' by inoculation of nasal washings i healthy volunteers. All previous attempts made investigators during the great pandemic of 1918 isolate a virus from influenza patients had been unsu cessful. However, thirteen years later Long and associates[7] inoculated chimpanzees with washings fr a patient with influenza and produced experimen respiratory infection characterized by prostration, fe and leukopenia.

"In 1933 Smith, Andrews and Laidlaw[8] brought f ward additional evidence of the virus nature of infl enza when they produced an acute febrile infection the respiratory tract of ferrets by inoculating the intranasally with the filtered washings from cases influenza in man. Dochez and his co-workers ha succeeded in cultivating the virus of influenza on tisso medium.

"The importance of the influenza bacillus in hum influenza has not been accurately determined. T studies of Shope,[9] however, on swine influenza, a d ease which has many of the characteristics of hum influenza, have thrown considerable light on the subje Indeed it is quite likely that the two diseases are ide tical, as swine influenza first made its appearance 1918 at the time of the pandemic of man. Shope fi showed that the active agent of swine influenza is filterable virus. This virus when injected alone in healthy pigs produced a very mild disease. Howev when in addition to the virus, the bacillus of swi influenza was added, a very severe and often fa respiratory infection resulted. The experimental in ulation of the swine influenza bacillus alone produc little or no manifestation of infection.

"The discovery that ferrets, swine and mice a susceptible to the influenza virus has facilitated en mously the study of this disease. Indeed, it is n too much to expect that within the next few years shall have a fairly complete understanding of t bacteriology and immunology of influenza and qui possibly methods of preventing and controlling t disease. For example, Francis and Magill[10] have show that, following infection with the virus of influenz both ferrets and mice develop a state of active immu ity against infection. The serums of these anima contain specific anti-bodies as evidenced by the capaci of the serum to confer protection on mice again infection with the influenza virus.

"It is interesting and fortunate that the virus human influenza can be injected subcutaneously in m without producing the disease. Such procedure f example would be extremely dangerous in the ca of poliomyelitis virus. Francis and Magill[11] have fou

that human influenza virus could be introduced subcutaneously or intradermally in human individuals without causing evidence of infection. Subjects so treated developed specific anti-bodies against the virus, and the anti-bodies so induced persisted for at least five months. Furthermore, the anti-body response to vaccination paralleled that occurring as a result of the naturally acquired disease.

"Stokes and his co-workers[12] at the University of Pennsylvania recently had an opportunity to test the value of influenza virus vaccine in a state colony of approximately 800 males during an epidemic of influenza in February, 1936. They vaccinated 110 individuals with human influenza virus and 138 individuals with swine virus. 550 controls received no vaccine. The epidemic covered a period of approximately two months. The group vaccinated with human virus showed an incidence of only 2.7 per cent. of febrile respiratory infections, whereas the other two groups showed an incidence of approximately 12.5 per cent. Andrewes[13] has recently made a similar attempt to determine the value of virus vaccination against influenza.

"In vaccinating against influenza a complicating factor has arisen from the fact that not all strains of human influenza virus are pathologically identical. This multiplicity of influenza viruses will no doubt add considerable difficulty to the problem of prophylactic vaccination.

"Bacterial vaccines are practically valueless in the prevention of influenza. This was well brought out during the World War, when attempts to vaccinate large groups of both soldiers and citizens were unsuccessful.

"In the case of influenza, isolation is of even greater importance than it is in coryza, for in the former disease isolation serves a double purpose; it protects to some extent the other members of the family or the social group to which the patient belongs, but still more important, it protects the patient against exposure to super-infection with other pathogenic bacteria which he may readily pick up from contacts, and which in many cases lead to pneumonia or other serious complications.

"In conclusion then, we may say that although little has been accomplished as yet in preventing the spread of influenza, virus vaccine holds out the promise of possessing definite prophylactic value. Furthermore, and most important of all, much can be done to lessen the incidence of serious complications such as pneumonia, by the proper treatment and isolation of the influenza patient."

(To be continued in next issue of "News Items").

COMMUNICABLE DISEASES REPORTED

Urban and Rural — Dec. 31, 1939 - Jan. 28, 1940

Chickenpox: Total 231—Winnipeg 86, Brandon 45, St. Boniface 17, Unorganized 15, MacDonald 10, Kildonan East 9, Portage Rural 8, Brenda 7, Transcona 7, Blanshard 6, Hamiota Rural 2, Kildonan West 2, Silver Creek 2, Argyle 1, Cartier 1, La Broquerie 1, Oakland 1, Pipestone 1, Rockwood 1, Teulon 1, Tuxedo 1 (Late Reported: Brandon 5, Brooklands 1, Hamiota 1).

Measles: Total 228—Winnipeg 148, Fort Garry 24, Flin Flon 15, Tuxedo 11, Portage Rural 7, Unorganized 6, Bifrost 4, Rosser 3, Gilbert Plains Rural 2, The Pas 2, Kildonan East 1, McCreary 1, Rockwood 1, St. Clements 1, Souris 1, Transcona 1.

Whooping Cough: Total 213—Winnipeg 115, St. Boniface 18, Unorganized 18, Brandon 11, Stanley 9, Kildonan East 6, Lawrence 6, Transcona 6, Portage City 5, Brooklands 3, Gimli Village 2, Sifton 2, Flin Flon 1, Fort Garry 1, Hartney 1, Morton 1, St. James 1 (Late Reported: Brandon 4, Brooklands 1, Pilot Mound 1, St. Boniface 1).

Scarlet Fever: Total 91—Winnipeg 40, Woodworth 10, Unorganized 5, Dauphin Town 3, MacDonald 3, Whitemouth 3, Cartier 2, Daly 2, St. James 2, Swan River Town 2, Swan River Rural 2, Assiniboia 1, Dauphin Rural 1, Kildonan Old 1, Kildonan West 1, North Norfolk 1, Rosedale 1, St. Boniface 1, Strathclair 1, Thompson 1, The Pas 1, Woodlea 1.

Woodlands 1. (Late Reported: Unorganized 5).

Tuberculosis: Total 65—Winnipeg 12, Brandon 1, Ste. Rose Rural 1, Ste. Rose Village 1 (Late Reported: Unorganized 10, Brandon 5, Tuxedo 4, Dauphin Rural 2, Transcona 2, Bifrost 1, Dauphin Town 1, Elton 1, Flin Flon 1, Harrison 1, Kildonan East 1, Kildonan West 1, Killarney Town 1, Lansdowne 1, Lac du Bonnet 1, Miniota 1, Morris Rural 1, Mossey River 1, Rivers Town 1, Roblin Town 1, Rhineland 1, St. James 1, St. Vital 1, Selkirk 1, Sifton 1, Springfield 1, Strathclair 1, Strathcona 1, Tache 1, Wallace 1, Whitehead 1, Whitemouth 1).

Diphtheria: Total 55—Winnipeg 40, Tuxedo 8, Rhineland 2, Hanover 1, Kildonan West 1, St. Boniface 1, St. Vital 1, Unorganized 1.

Mumps: Total 56—Winnipeg 54, Blanshard 1, Kildonan West 1.

Diphtheria Carriers: Total 39—Winnipeg 32, Tuxedo 4, Fort Garry 1, Kildonan West 1, St. Boniface 1.

Erysipelas: Total 10—Winnipeg 4, Brandon 1, Franklin 1, Kildonan West 1, North Norfolk 1, Stonewall 1, Tuxedo 1.

Influenza: Total 7—Winnipeg 3, Unorganized 3, Kildonan East 1.

Anterior Poliomyelitis: Total 2—Cornwallis 1, Rivers Town 1.

Typhoid Fever: Total 2—Shoal Lake Rural 1 (Late Reported: Roblin Rural 1).

Lobar Pneumonia: Total 2—Brandon 2.

German Measles: Total 2—Rhineland 1, St. Boniface 1.

Septic Sore Throat: Total 1—Wallace 1.

Tetanus: Total 1—(Late Reported: Portage Rural 1).

Venereal Disease: Total 115—Gonorrhoea 81, Syphilis 34 (for month of January).

DEATHS FROM ALL CAUSES IN MANITOBA

For the Month of December, 1939

URBAN—Cancer 42, Pneumonia (other forms) 6, Tuberculosis 6, Pneumonia Lobar 4, Syphilis 4, Diphtheria 1, Influenza 1, Lethargic Encephalitis 1, all others under one year 8, all other causes 190, Stillbirths 10. Total 273.

RURAL—Cancer 18, Pneumonia (other forms) 13, Tuberculosis 10, Whooping Cough 4, Influenza 3, Lethargic Encephalitis 3, Pneumonia Lobar 3, Typhoid Fever 1, Dysentery 1, Tetanus 1, Diphtheria 1, all others under one year 24, all other causes 148, Stillbirths 18. Total 248.

INDIAN—Tuberculosis 7, Pneumonia (other forms) 5, Whooping Cough 2, Pneumonia Lobar 1, all others under one year 9, all other causes 10, Stillbirths 2. Total 36.

Medical Library
University of Manitoba

Current Medical Literature

"Journal of The Royal Army Medical Corps"—November, 1939

Preventive Medicine in Relation to Aviation. Commodore H. E. Whittingham.

Medical Problems of Aviation. E. Jokl (A Pil

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Memorandum Concerning the Use of Sulphonamide Derivatives for Prophylaxis and Treatment of Wound Infections. By the Director of Pathology, A.M.D. 7, War Office.

"The Journal of Obstetrics and Gynaecology of the British Empire"—October, 1939

Blair-Bell Memorial Lecture. January 27, 19 Hydatidiform Mole and Chorion-epitheliom Alan Brews.

Double Monsters in the Light of Recent Biolog Experiments and Investigations Regard Heredity. Contribution to the Problem of Determination of Sex. Balazs Szendi.

Vaginal Hysterectomy. A New Technique. Follow-up of 500 Consecutive Operations Haemorrhage. V. B. Green-Armytage.

An Investigation of Cases of Recurrent Abort and Their Treatment with Progesterone. N. MacGregor and C. P. Stewart.

The Complications of Radium Therapy in Can of the Uterine Cervix. R. Glyn Maliphant.

Some Factors Bearing Upon the Haemoglo Level in Pregnancy. Geoffry C. Linder a Patricia J. H. Massey.

"The American Journal of Surgery"—January, 1940

Postoperative Wound Disruption and Evis ation. An Analysis of Thirty-Four Cases w a Review of the Literature. Arthur Bowen

The Superiority of Very Fine Catgut in Gas Intestinal Surgery. John O. Bower, John Burns and Harold A. Mengle.

Simplification of the Physick-Frank-Sellh Principle of Extraperitoneal Cesarean Secti James V. Ricci.

A Modification in the Repair of Complete La ation of the Pelvic Floor. G. L. Moench.

The Use of Fascia Lata in Vaginal Surgery. Ha Kirschbaum.

The Endocrines and Spermatogenesis. Robert Hotchkiss.

The Radiation Treatment of Cancer of the Bre Erich Uhlmann.

External Lateral Dislocation of the Elb Wellington D. Griesemer.

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Simple Apparatus for Constant Suction. H. L. Marriott and A. F. Foster-Carter.

he Central Nervous System in Congenital Absence of One Leg. E. W. Walls.

"The Lancet"—January 13, 1940.

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"British Medical Journal"—January 27, 1940

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Nasal Sinusitis in Children. Douglas Guthrie

Childbirth After Presacral Neurectomy. T. Vib Pearce.

Sulphapyridine in the Treatment of Ac Urethritis. N. Seddon Taylor.

Results of Treatment of Gonorrhoea with Sulp pyridine. Further Observations. Ernest Prebble.

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The Pulmonary Circulation — Before and Af Harvey. R. A. Young (concluded).

Notes on Penetrating Chest Wounds. F. Thomson.

Treatment with Sulphapyridine (M & B 693) Guinea Pigs Infected with Brucella Abort G. S. Wilson and Irene Maier.

Platelet-Reducing Extracts of the Spleen. Fe ity C. G. Hobson and L. J. Witts.

Treatment of Infected Burns. B. C. Murless.

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Bacterial Endocarditis: Possibility of Cure Sulphonamides. C. T. Andrews.

Nocturnal Enuresis. Doris M. Odlum.

Treatment of Mental Disorders with Male Hormone. Arthur Guirdham.

The Surgical Treatment of Trigeminal Neuralg G. F. Rowbotham.

WHAT EVERY WOMAN DOESN'T KNOW— HOW TO GIVE COD LIVER OIL

Some authorities recommend that cod liver oil given in the morning and at bedtime when the stom is empty, while others prefer to give it after meals order not to retard gastric secretion. If the mot will place the very young baby on her lap and hold child's mouth open by gently pressing the che together between her thumb and fingers while administers the oil, all of it will be taken. The inf soon becomes accustomed to taking the oil with having its mouth held open. It is most important t the mother administer the oil in a matter-of-f manner, without apology or expression of sympath

If given cold, cod liver oil has little taste, for cold tends to paralyze momentarily the gustat nerves. As any "taste" is largely a metallic one fr the silver or silverplated spoon (particularly if plating is worn), a glass spoon has an advantage.

On account of its higher potency in Vitamins A D, Mead's Cod Liver Oil Fortified With Percomo Liver Oil may be given in one-third the ordinary liver oil dosage, and is particularly desirable in ca of fat intolerance. —A